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Andrew Penland* (adpenland@email.wcu.edu). *Finitely Constrained Groups of Small Hausdorff Dimension.*

Grigorchuk introduced the notion of *groups of finite type*: profinite topological groups of tree automorphisms defined by sets of local *allowed patterns*. One application of groups of finite type is the construction of concrete examples whose Hausdorff dimension is easily calculated. Groups of finite type are also called finitely constrained groups. Known families of finitely constrained groups, including those due to Sunik and Bartholdi & Nekrashevych, have Hausdorff dimension approaching 1 as the pattern size groups. We construct an infinite family of topologically finitely generated, finitely constrained groups of binary tree automorphisms. These groups have a combinatorial structure inspired by the Grigorchuk group, and they all have Hausdorff dimension less than $1/2$. (Received July 18, 2017)